

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended): A particle-dispersed complex on a substrate, the particle dispersed complex comprising

a thin film matrix consisting of an aggregate of carbon black obtained by ~~thermal~~ chemical vapor deposition (CVD); and

metallic ruthenium particles dispersed in and surrounded by the matrix, wherein each of the particles has a particle diameter in a range of from 5 to 100 nm; and every part of the entire surface of each of the particles makes contact with either the matrix or another of the particles.

Claims 2-13 (Canceled)

Claim 14 (Previously Presented): The particle-dispersed complex according to Claim 1, wherein an atomic number ratio of carbon to ruthenium in the particle-dispersed complex is in a range of from 30:70 to 70:30.

Claim 15 (Previously Presented): The particle-dispersed complex according to Claim 1, wherein the matrix is deposited on a substrate by CVD at a substrate temperature of 350 to 450°C with a source material comprising ruthenium dipivaloylmethanate and a carrier gas comprising greater than 9% and less than 23% of oxygen.

Claim 16 (Canceled)

Claim 17 (Previously Presented): The particle-dispersed complex according to Claim 1, wherein the complex is on an electrically conductive substrate.

Claim 18 (Previously Presented): The particle-dispersed complex according to Claim 1, wherein the complex is on a solid electrolyte substrate.

Claim 19 (Previously Presented): The particle-dispersed complex according to Claim 18, wherein an interfacial electrical conductivity σ of the solid electrolyte substrate and a thin film formed from the particle-dispersed complex on a surface of the solid electrolyte substrate is in a range of from 10^{-6} Sm^{-1} to 10^{-2} Sm^{-1} at a temperature in a range of from 190 to 350°C.

Claim 20 (Previously Presented): The particle-dispersed complex according to Claim 19, wherein the solid electrolyte substrate is a zirconium oxide substrate which includes a stabilizing agent.

Claim 21 (Previously Presented): The particle-dispersed complex according to Claim 1, wherein the complex is a sensor electrode of a solid electrolyte sensor or an electrode for a solid electrolyte.

Claim 22 (Previously Presented): The particle-dispersed complex according to Claim 1, wherein the complex is an electrochemical catalyst.

Claim 23 (Previously Presented): The particle-dispersed complex according to Claim 21, wherein the complex is an electrochemical catalyst.

Claim 24 (Previously Presented): A solid electrolyte sensor, wherein the particle-dispersed complex according to Claim 1 is formed as an electrode on a surface of a zirconium oxide substrate which includes a stabilizing agent.

Claim 25 (New) A particle-dispersed complex on a solid electrically conductive substrate, the particle dispersed complex comprising

a thin film matrix consisting of an aggregate of carbon black obtained by chemical vapor deposition (CVD); and

metallic ruthenium particles dispersed in and surrounded by the matrix, wherein each of the particles has a particle diameter in a range of from 5 to 100 nm; and every part of the entire surface of each of the particles makes contact with either the matrix or another of the particles,

wherein an interfacial electrical conductivity σ of the solid electrically conductive substrate and a thin film formed from the particle-dispersed complex on a surface of the solid electrolyte substrate is in a range of from 10^{-6} Sm^{-1} to 10^{-2} Sm^{-1} at a temperature in a range of from 190 to 350°C